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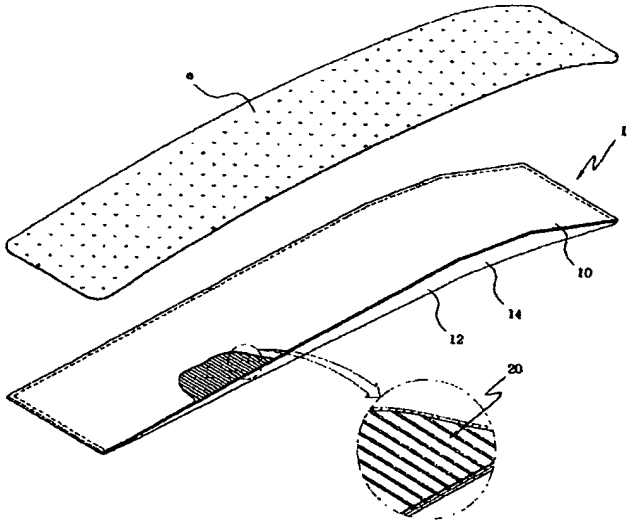
(54) Title: PUTTING TRAINING MAT



(57) Abstract: The object of this invention is to provide a putting training mat. This mat (1) has a base panel (10) covered with an artificial lawn sheet (a). A plurality of tubes (12), (13) and (14) are longitudinally arranged on the lower surface of panel (10), and are different from each other in their slope angles and heights from a support surface when inflated with air. A variety of slopes are thus formed on the upper surface of the panel (10), and allow a user to practice putting on a complex sloped surface. In order to reinforce the polyurethane panel (10), a plurality of thin flat sticks (21) are transversely and regularly set within the panel (10), and so the sticks (21) maintain the horizontal surface or the sloped surface of the panel (10), in addition to maintaining the originally designed shape of the panel (10). The base panel (10) is also tightly rolled when stored or carried.

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PUTTING TRAINING MAT

Technical Field

The present invention relates, in general, to putting training mats used for putting practice and, more particularly, to a putting training mat designed to allow a user to freely adjust its slope angle, thus being easily installed and usable at home or other desired areas, and allowing the user to practice his putting on an adjusted sloped surface having a desired slope angle as if he were putting on a real putting green of a golf course, the putting training mat being also easily stored or carried in a compact size and shape.

Background Art

As well known to those skilled in the art, several types of putting trainers, designed to allow users to practice their putt at home or other desired areas and enable the users to become good at putting, have been proposed and used.

Examples of such conventional putting trainers include several types of putting training mats. Of the conventional putting training mats, some comprise an artificial lawn sheet having a predetermined length and horizontally laid-down on a support surface, such as a floor, and some comprise a sloped panel having a fixed slope angle and covered with an artificial lawn sheet thereon so as to allow a user to get an up-hill putting practice on its sloped surface. In addition, another type of putting training mat, designed to allow a user to adjust a slope angle within a predetermined angle range as desired and be preferably usable in a golf practice range, has been proposed and used.

However, it is impossible to install or use the putting training mat, designed to allow a user to adjust a slope angle within a predetermined angle range as desired, at home since it is very difficult to secure a substantial large space for the mat at home.

Therefore, the conventional putting training mats installed and used at

home are undesirably limited to some types, comprising an artificial lawn sheet having a predetermined length and horizontally laid-down on a support surface or comprising a sloped panel having a fixed slope angle and covered with an artificial lawn sheet thereon. However, such types of conventional putting training mats usable at home only allow users to get a putting practice on a flat, horizontal surface or a fixed slope surface, but do not allow the users to practice their putt for a variety of real putting greens typically having irregular sloped surfaces with a variety of slope angles.

In addition, such conventional putting training mats must be almost always laid on support surfaces, and so they force the users to secure a space or area for the installation of the mats. The conventional putting training mats thus reduce the available space or area within a place installed with the mats. Another problem experienced in the conventional putting training mats resides in that the mats have an almost fixed size and shape, and so it is very difficult to easily or simply store the mats when the mats are not used. Of course, it is also difficult to carry the mats since the mats have such an almost fixed size and shape.

Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a putting training mat, which is designed to be tightly rolled when necessary, thus allowing a user to easily and simply store or carry the mat, and which is also freely adjustable in its slope angle, thus allowing the user to practice their putting on an adjusted sloped surface having a desired slope angle as if he were putting on a real putting green of a golf course.

In order to accomplish the above object, the present invention provides a putting training mat covered with an artificial lawn sheet on its upper surface and forming a horizontal surface or a sloped surface on the upper surface to allow a user to become good at putting, comprising: a base panel made of a soft urethane material and covered with the artificial lawn sheet on its upper surface, with a

plurality of tubes longitudinally arranged on the lower surface of the base panel along opposite sides of the base panel to create a sloped surface on the upper surface of the base panel when the tubes are inflated with air; and a reinforcing unit set within the base panel and maintaining the horizontal surface or the sloped surface of the base panel.

Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is an exploded perspective view of a putting training mat in accordance with the preferred embodiment of the present invention;

Fig. 2 is a bottom perspective view of the putting training mat of this invention, showing the bottom structure of the training mat;

Fig. 3 is a front view of the putting training mat of this invention when the training mat is laid-down on a support surface in a completely flat, horizontal position;

Fig. 4 is a front view of the putting training mat of this invention when the training mat is laid-down on a support surface while forming sloped surfaces;

Fig. 5 is a sectional view of the putting training mat of this invention taken along the line A-A, showing a partially deflated state of some tubes to form a desired sloped surface on a base panel; and

Fig. 6 is a perspective view of the putting training mat of this invention when the training mat is completely rolled so as to be stored or carried.

Best Mode for Carrying Out the Invention

Reference now should be made to the drawings, in which the same reference numerals are used throughout the different drawings to designate the same or similar components.

Fig. 1 is an exploded perspective view of a putting training mat in accordance with the preferred embodiment of the present invention. Fig. 2 is a bottom perspective view of the putting training mat of this invention, showing the bottom structure of the training mat. Fig. 3 is a front view of the putting training mat of this invention when the training mat is laid-down on a support surface in a completely flat, horizontal position. Fig. 4 is a front view of the putting training mat of this invention when the training mat is laid-down on a support surface while forming sloped surfaces. Fig. 5 is a sectional view of the putting training mat of this invention taken along the line A-A, showing partially deflated state of some tubes to form a desired sloped surface on a base panel.

The putting training mat 1 of this invention comprises a longitudinal base panel 10, which is made of a soft urethane material and has predetermined length and width and is removably covered with an artificial lawn sheet "a" on its upper surface. A plurality of tubes 12, 13 and 14 are longitudinally arranged on the lower surface of the base panel 10 along opposite sides of the panel 10. The above tubes 12, 13 and 14 are integrally mounted to the lower surface of the base panel 10, and are inflated with air to create a desired slope on the upper surface of the base panel 10.

The tubes 12, 13 and 14 are each provided with an air injection port 12a, 13a or 14a at a predetermined position, and are different from each other in their slope angles and their heights from a support surface when the tubes are fully inflated with air.

A reinforcing unit 20 is transversely set within the housing of the base panel 10, and is used for maintaining the horizontal surface or the sloped surface of the base panel 10.

The reinforcing unit 20 comprises a plurality of thin flat sticks 21, which have predetermined length and width, and are transversely arranged within the housing of the base panel 10 while being spaced apart from each other at regular intervals. In such a case, the upper and lower sheets of the base panel housing are compressed and bonded together at the gaps between the thin flat sticks 21 transversely set within the base panel 10. Therefore, the base panel 10 is

desirably flexible, and can be tightly rolled from one end to the other end.

Fig. 6 is a perspective view of the putting training mat of this invention when the training mat is completely rolled so as to be stored or carried. As shown in the drawing, it is possible to tightly roll the mat 1 of this invention since the sticks 21 of the reinforcing unit 20 are regularly and transversely arranged within the base panel 10. When it is desired to tightly roll the mat 1 to form a rolled shape as shown in Fig. 6 so as to store or carry the mat 1, the mat 1 is easily rolled from one end thereof to the other end. In order to maintain the tightly rolled state of the mat 1 while storing or carrying the mat 1, a fastening band "B" is preferably mounted to either end of the mat 1.

The operational effect of the putting training mat of this invention will be described herein below.

The mat 1 of this invention is used for practicing putting within the interior of a house or a building as follows. The putting practice for becoming skilled at putting on a horizontal putting green is accomplished by laying the artificial lawn sheet "a" on the upper surface of the base panel 10 prior to starting the putting practice. During such a putting practice, a user may start to putt at an end of the mat 1.

In order to form a sloped surface on the upper surface of the base panel 10, a small quantity of air is injected into the tubes 12, 13 and 14 through their air injection ports 12a, 13a and 14a, thus forming the desired sloped surface on the upper surface of the base panel 10 due to a height difference between the air-inflated tubes 12, 13 and 14. Due to the sloped surface formed by the air-inflated tubes 12, 13 and 14, a user effectively practices a putting as if he were putting on a real putting green of a golf course.

In addition, it is possible to adjust the slope angle of the base panel 10 by controlling the quantity of air injected in the tubes 12, 13 and 14, and so a user easily forms a desired slope angle of the base panel 10 by controlling the quantity of air.

That is, the tubes 12, 13 and 14 are different from each other in their slope angles and their heights from a support surface when the tubes are fully inflated

with air as described above, and so a user can easily form a desired slope angle of the base panel 10 prior to carrying out a putting practice.

When a user wants to form another slope on a side along the axial direction of the previously formed slope of the base panel 10, one, two or three tubes arranged along the desired side of the base panel 10 are appropriately deflated. A desired additional slope is formed on the previously formed slope of the base panel 10. Therefore, the putting training mat of this invention allows a user to practice putting on a complex sloped surface having a variety of slope angles as if he were putting on a real putting green of a golf course.

Since the putting training mat of this invention allows a user to easily and simply form desired slopes that may be encountered by the user on a real putting green of a golf course, the mat allows the user to practice their putting and become good at a variety of putting techniques, including a putting on a horizontal putting green, an up-hill putting green or a down-hill putting green.

That is, the putting training mat of this invention is preferably used by beginners wanting to become good at low-difficulty putting on a horizontal putting green, in addition to amateur golfers and professional golfers who want to become good at high-difficulty up-hill putting, or high-difficulty up and down-hill putting on a highly complex sloped surface having a variety of slope angles, as if he were putting on a real putting green of a golf course.

When it is desired to store the mat 1 when the mat 1 is not used or to carry the mat 1, the base panel 10 is tightly rolled prior to fastening the band "B" to maintain the rolled state of the panel 10. In such a case, the artificial lawn sheet "a" is separated from the base panel 10, and is tightly rolled in the same manner as that described for the base panel 10.

The housing of the base panel 10 is made of the soft urethane material, and so the shape of the base panel housing may be thermally deformed. However, since the reinforcing unit 20 is set in the housing of the base panel 10, it is possible to maintain the shape of the base panel 10 for a desired lengthy period of time, in addition to maintaining the shape of slopes selectively formed on the base panel 10.

In order to form the reinforcing unit 20, a plurality of thin flat sticks 21 are regularly and transversely set within the housing of the base panel 10, with the upper and lower sheets of the base panel housing compressed and bonded together at the gaps between the thin flat sticks 21. Therefore, when it is desired to store or carry the mat 1, the lawn sheet "a" is primarily removed from the base panel 10, and is tightly rolled to form a compact shape suitable for storing or carrying the sheet "a". In addition, the tubes 12, 13 and 14 are fully deflated prior to tightly rolling the base panel 10 from one end to the other end to form a compact shape. Thereafter, the rolled shape of the panel 10 is maintained by fastening the band "B" as shown in Fig. 6. When the putting training mat 1 of this invention is tightly rolled as described above, it is possible to remarkably reduce the volume of the mat 1 different from conventional putting training mats. The putting training mat of this invention is thus easily stored or carried, and so it is convenient to a user.

Industrial Applicability

As described above, the present invention provides a putting training mat. This mat has a longitudinal base panel removably covered with an artificial lawn sheet on its upper surface. A plurality of tubes are longitudinally arranged on the lower surface of base panel along opposite sides of the panel. The above tubes are different from each other in their slope angles and their heights from a support surface when they are fully inflated with air. Therefore, it is possible to create a variety of slopes on the upper surface of the base panel, and allow a user to practice putting on a complex sloped surface as if he were putting on a real putting green of a golf course. In order to reinforce the polyurethane base panel housing, a plurality of thin flat sticks are regularly and transversely set within the housing of the base panel, and so the sticks maintain the horizontal surface or the sloped surface of the base panel for a desired lengthy period of time. The above sticks also maintain the originally designed shape of the polyurethane base panel housing for a desired lengthy period of time, in addition to allowing the base panel to be

tightly rolled when it is desired to store or carry the mat.

Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Claims

1. A putting training mat covered with an artificial lawn sheet on its upper surface and forming a horizontal surface or a sloped surface on the upper surface to allow a user to become good at putting, comprising:

a base panel made of a soft urethane material and covered with an artificial lawn sheet on its upper surface, with a plurality of tubes longitudinally arranged on a lower surface of the base panel along opposite sides of the base panel to create a sloped surface on the upper surface of said base panel when the tubes are inflated with air; and

a reinforcing unit set within said base panel and maintaining the horizontal surface or the sloped surface of the base panel.

2. The putting training mat according to claim 1, wherein said tubes are each provided with an air injection port at a predetermined position, and are different from each other in their slope angles and their heights from a support surface when the tubes are fully inflated with air.

3. The putting training mat according to claim 1, wherein said reinforcing unit comprises a plurality of thin flat sticks having predetermined length and width and transversely arranged within the base panel while being spaced apart from each other at regular intervals.

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Fig. 1

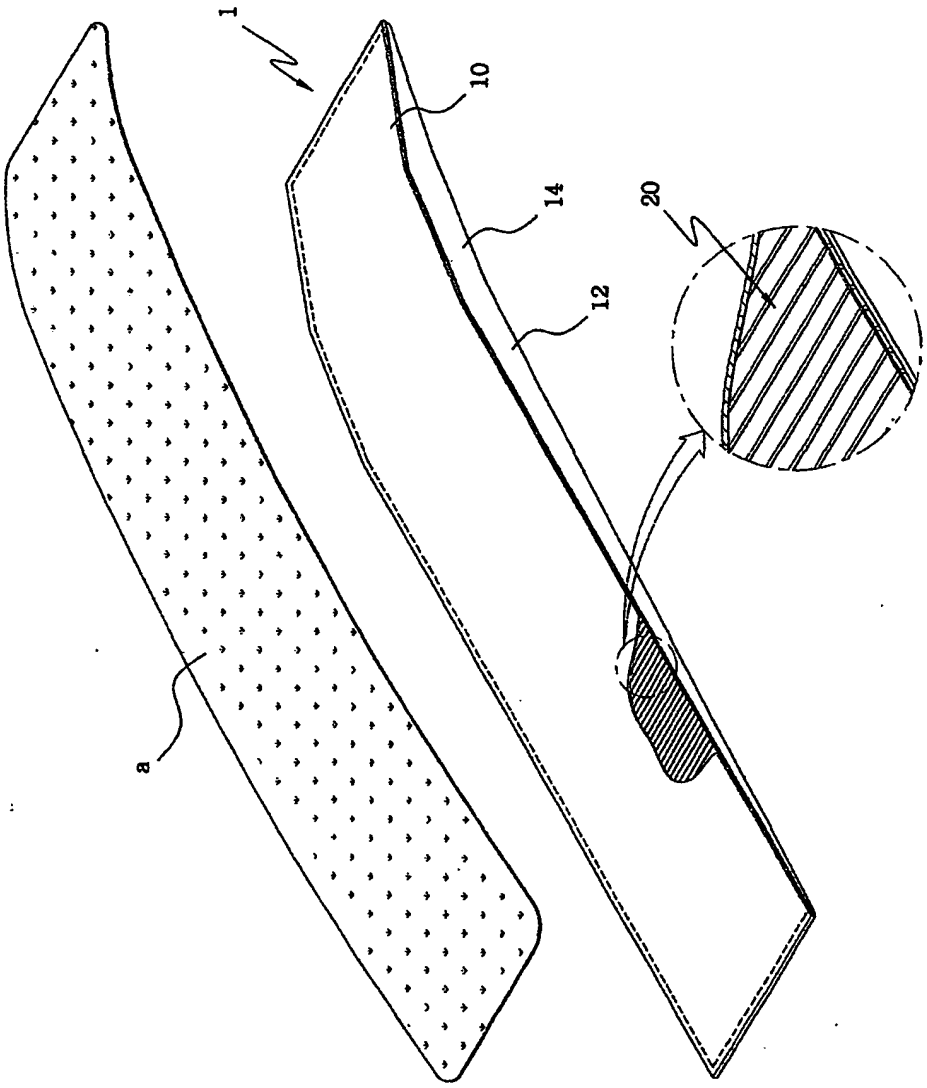

Fig. 2

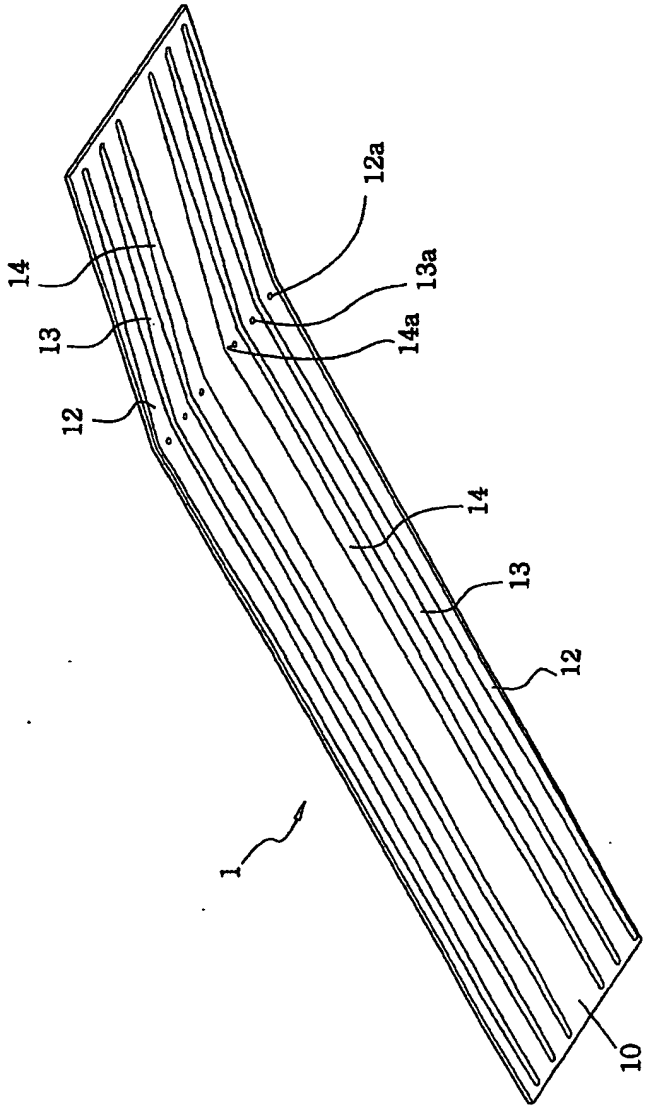

Fig. 3

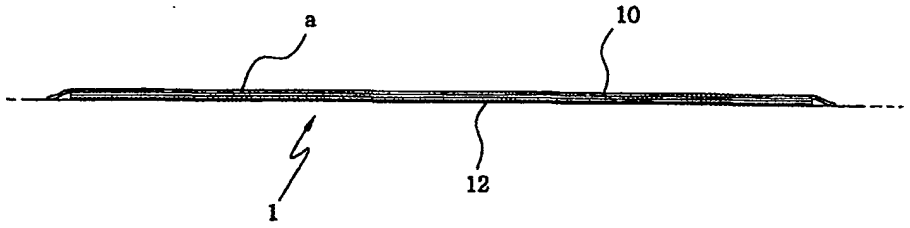

Fig. 4

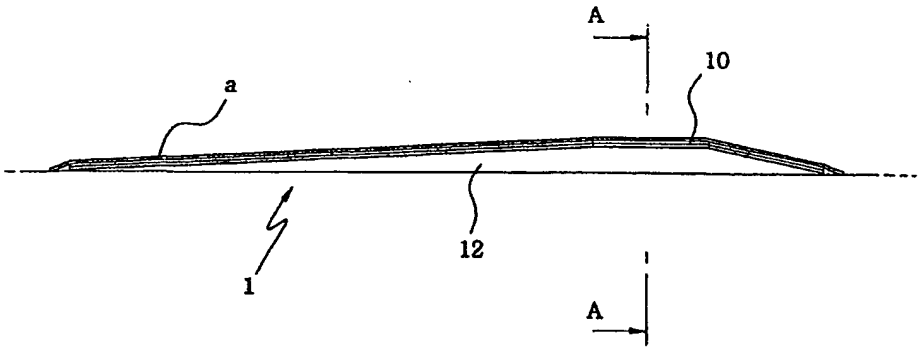

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Fig. 5

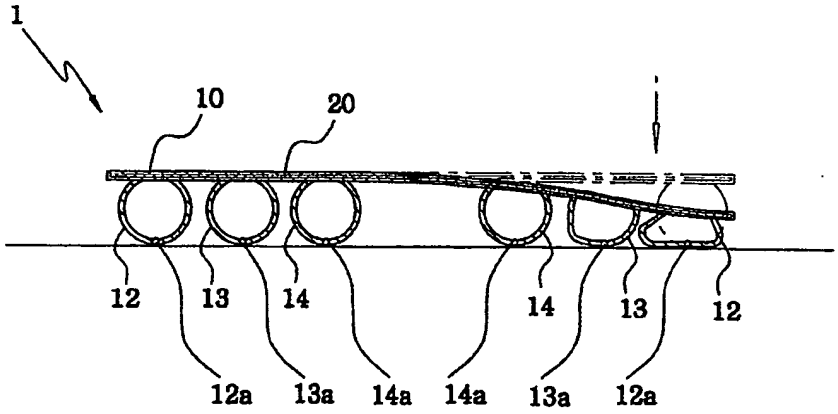
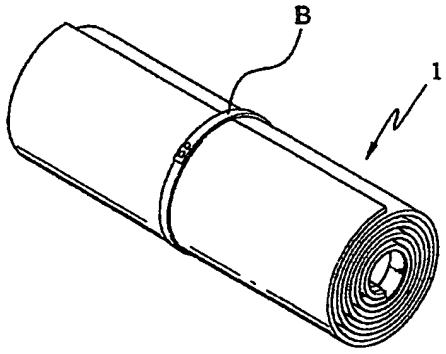


Fig. 6



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR01/00427

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 A63B 69/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimun documentation searched (classification system followed by classification symbols)

IPC A63B, B60N

Documentation searched other than minimun documentation to the extent that such documents are included in the fileds searched

KR. JP. US: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search trerms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 20-0164316 U(HWANG KI ROYONG)15 FEBRUARY 2000 See the whole document	1 - 3
Y	JP 50-089461 U(NISIMURA HYAKUAUKO)29 JULY 1975 See the whole document	1 - 3
A	JP 05-086375 U(KAWAAU CHUWAGI)22 NOVEMBER 1993 See the whole document	1 - 3
A	JP 10-192470 U(YUUHOU KAGAKU KOGYO KK)28 JULY 1998 See the whole document	1 - 3
A	US 005308075 A(THERIAULT JOSEPH H.)3 MAY 1994 See the whole document	1 - 3

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Date of the actual completion of the international search	Date of mailing of the international search report
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